

# WILLAS

MD1S  
THRU  
MD7S

**SINGLE-PHASE GLASS PASSIVATED  
SILICON BRIDGE RECTIFIER**  
VOLTAGE RANGE 50 to 1000 Volts CURRENT 0.8 Ampere

### FEATURES

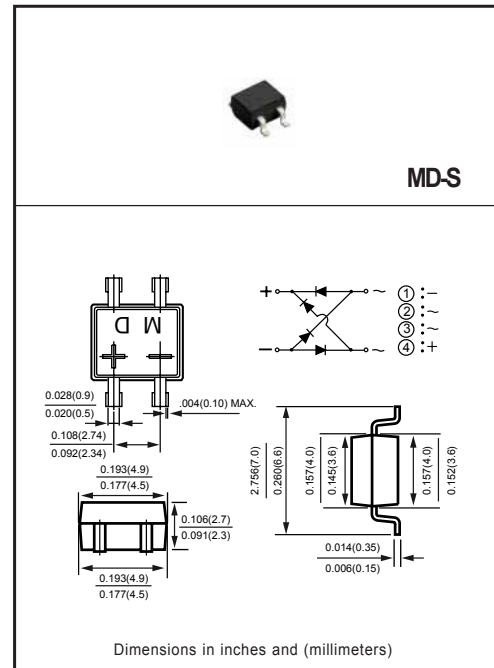
- \* Surge overload rating - 30 amperes peak
- \* Ideal for printed circuit board
- \* Reliable low cost construction utilizing molded
- \* Glass passivated device
- \* Polarity symbols molded on body
- \* Mounting position: Any
- \* Weight: 0.134 gram
- \* RoHS product for packing code suffix "G"
- Halogen free product for packing code suffix "H"

### MECHANICAL DATA

- \* Epoxy: Device has UL flammability classification 94V-0
- \* UL listed under the recognized component directory, file #E195711.

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



MAXIMUM RATINGS (At  $T_A = 25^\circ\text{C}$  unless otherwise noted)

RATINGS	SYMBOL	MD1S	MD2S	MD3S	MD4S	MD5S	MD6S	MD7S	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Bridge Input Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Output Current at $T_A = 30^\circ\text{C}$	$I_O$	0.8							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							Amps
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	85							$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	20							
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150							$^\circ\text{C}$

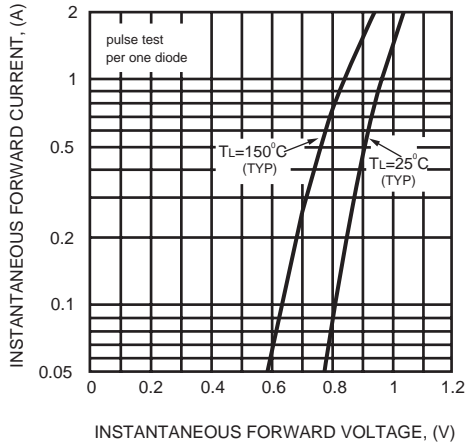
ELECTRICAL CHARACTERISTICS (At  $T_A = 25^\circ\text{C}$  unless otherwise noted)

CHARACTERISTICS	SYMBOL	MD1S	MD2S	MD3S	MD4S	MD5S	MD6S	MD7S	UNITS
Maximum Forward Voltage Drop per Bridge Element at 0.8A DC	$V_F$	1.05							Volts
Maximum Reverse Current at Rated DC Blocking Voltage per element	@ $T_A = 25^\circ\text{C}$	10							$\mu\text{Amps}$
	@ $T_A = 125^\circ\text{C}$	0.5							mAmps

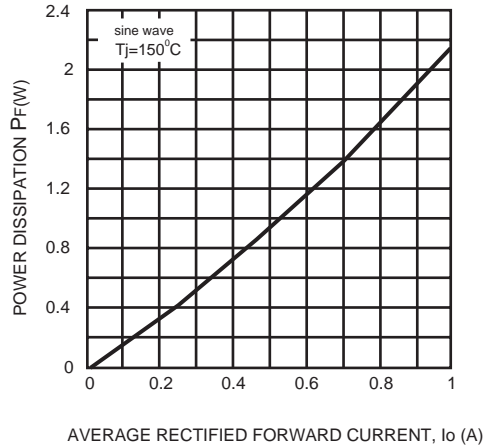
Note: 1. "Fully ROHS compliant", "100% Sn plating(Pb-free).  
2. Thermal Resistance: PCB mounted.

# RATING AND CHARACTERISTIC CURVES ( MD1S THRU MD7S )

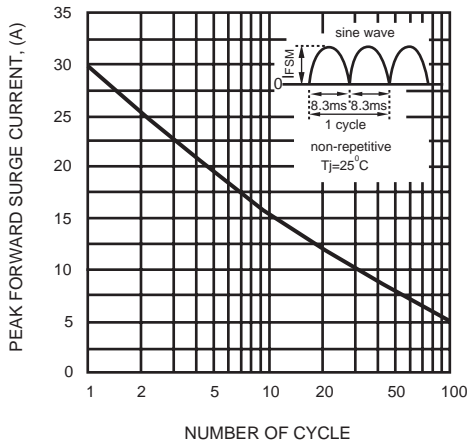
TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



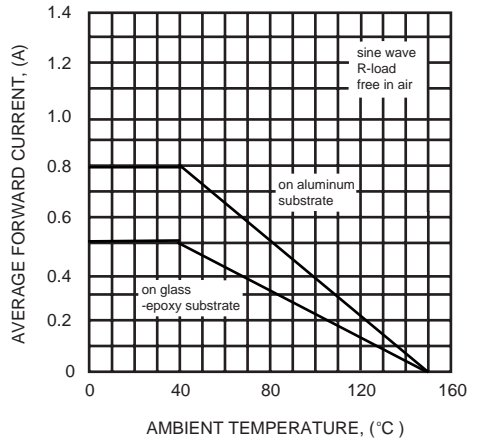
POWER DISSIPATION



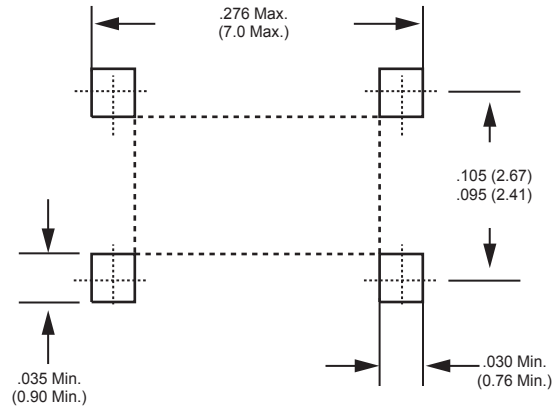
SURGE FORWARD CURRENT CAPABILITY



TYPICAL FORWARD CURRENT DERATING CURVE



## Mounting Pad Layout



Dimensions in inches and (millimeters)